



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Brian K. Haarer and Nigel S. Atkinson
Serial No.: 09/253,788 Group Art Unit: 1633
Filed: 02/23/99 Examiner:

For: **DNA ADDITIVES AS A MECHANISM FOR UNAMBIGUOUSLY MARKING BIOLOGICAL SAMPLES**

Assistant Commissioner of Patents
and Trademarks
Box Application Processing Division's
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Washington, D.C. 20231

Dear Sir:

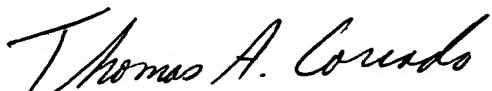
On February 23, 1999, applicants Brian K. Haarer and Nigel S. Atkinson filed a patent application for the above referenced invention.

Transmittal of the application was evidenced by a Certificate of Express Mailing having a label number EL077055076US, duly deposited with the U.S. Postal Service on **February 23, 1999**. A copy of the Certificate of Express Mailing and the Express Mail Certificate itself are attached hereto as Exhibit A. A copy of the first page of the specification showing both inventors' names is attached hereto as Exhibit B. A copy of our Postcard showing the Patent and Trademark Office date and serial number bar coded sticker as Serial No. 09/253,788 is attached hereto as Exhibit C. Inasmuch as the Certificate of Express Mailing specifically states

the date of deposit in the U.S. Mail of **February 23, 1999**, and our returned postcard shows the PTO stamped dated mistakenly as **February 22, 1999**, it is respectfully requested that the above referenced application filing date be corrected to February 23, 1999, versus the current incorrect filing date of record of February 22, 1999.

Further, it is requested the filing receipt, a copy of which is attached hereto ad Exhibit D, be corrected under Applicant(s) to show both applicants' names as shown on the enclosed copy of the first page of the specification (Exhibit B) as originally filed on February 23, 1999.

Respectfully submitted,



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EXHIBIT

A

DNA Additives as a Mechanism for Unambiguously Marking Biological Samples

1 Inventors: Brian K. Haarer and Nigel S. Atkinson

2

3 Field of the Invention

4 The present invention relates generally to the forensic or medical analysis of biological
5 samples. More specifically, the present invention relates to the marking of biological samples for
6 their subsequent distinction from unmarked biological samples in standard forensic nucleic acid
7 analysis.

8 Background of the Invention

9 In certain criminal investigations, "known" biological samples (primarily blood, saliva, and
10 semen) are collected from victims, suspects, and their relatives. In these criminal investigations,
11 "unknown" biological specimens are also collected, generally from the crime scene and from
12 residences, automobiles, and other items associated with one or more suspects in the
13 investigation. These unknown biological specimens are often scrapings of drops of blood, saliva,
14 semen, or small tissue fragments.

15 Both known and unknown biological specimens are subjected to various analyses, including
16 characterizations of their constituent deoxyribonucleic acid (DNA). The standard analysis
17 methods used are (a) analysis of *Variable Numbers of Tandem Repeats (VNTR)*, (b) analysis of
18 *Short Tandem Repeats (STR)*, (c) analysis of Single Nucleotide Polymorphisms (SNP), (d)
19 analysis of *Restriction Fragment Length Polymorphisms (RFLPs)*, and (e) analysis of
20 mitochondrial DNA sequences. VNTR and STR analyses utilize simple or multiplex *Polymerase*
21 *Chain Reaction (PCR)* technology; RFLP analysis utilizes restriction enzyme digestion of DNA
22 followed by DNA hybridization techniques with labeled DNA probes; and mitochondrial DNA
23 sequence analysis utilizes a combination of PCR technology and conventional dideoxy
24 ("Sanger") sequencing in a process known as *cycle sequencing*.

25 Results from the above analyses are used to compare the known and unknown samples to
26 determine any possible relationships between the samples.

27 However, problems may arise due to the deliberate or inadvertent contamination of

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MARKING BIOLOGICAL SAMPLES

09/21/778

Enclosed please find the following:

1. Specification, abstract and claims (2 independent, 16 dependent, 18 total) (15 pages);
2. Informal drawings (3 figures, 3 sheets);
3. Declaration and Power of Attorney;
4. Verified Statement Claiming Small Entity Status - Independent Inventor;
5. Two checks totaling the amount of \$380.00; and,
6. Certificate of Express mailing.

EXHIBIT

C

FILING RECEIPT



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/253,788	02/22/99	1633	\$380.00		3	18	2

THOMAS A CORRADO
ROBERTS & ABOKHAIR
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11800 SUNRISE VALLEY DRIVE
RESTON VA 20191

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Application Processing Division's Customer Correction Branch within 10 days of receipt. Please provide a copy of the Filing Receipt with the changes noted thereon.

Applicant(s)

NIGEL S. ATKINSON, ROUND ROCK, TX.

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 03/15/99. ** SMALL ENTITY **
TITLE
DNA ADDITIVES AS A MECHANISM FOR UNAMBIGUOUSLY MARKING BIOLOGICAL
SAMPLES

PRELIMINARY CLASS: 435

EXHIBIT

D

DATA ENTRY BY: TUTT, TONDENICA

TEAM: 01 DATE: 03/15/99